

## **REMARKS**

Applicants appreciate the detailed examination evidenced by the Office Action dated October 4, 2007. In response, Applicants have amended independent Claims 1 and 24, rewritten dependent Claim 17 into independent form, amended dependent Claims 7, 11, 19, 20 and 32 and canceled Claims 2-6, 9, 10, 15, 18, 25-31 and 34. Applicants respectfully submit that pending Claims 1, 7, 8, 11, 16, 17, 19, 20, 24, 32, 33 and 35 are patentable over the cited references and are in condition for allowance for at least the following reasons.

### **Examiner Interview Summary Under MPEP §713.04**

On December 10, 2007, Examiner Li extended courtesies to Applicants' undersigned representative, Timothy J. Wall, in granting a telephonic interview to discuss the rejections of the claims in the Office Action mailed October 4, 2007. Applicants appreciate Examiner Li's willingness to discuss the claims in view of the cited references. Applicants' representative and Examiner Li discussed the claims in view of the references but were unable to reach agreement as to the allowability of the claims.

Applicants respectfully appreciate Examiner Li's assistance in discussing the rejections and efforts to advance the prosecution in the present application.

### **35 U.S.C. § 112 Rejections Are Overcome**

The Office Action rejects Claims 18-20 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention. Office Action, page 2. Applicants respectfully submit that Claim 18 is canceled and the amendments to Claims 17, 19 and 20 are believed to address the Examiner's concerns as expressed in the Office Action. Accordingly, Applicants respectfully request that the rejections under 35 U.S.C. § 112, second paragraph, be withdrawn.

### **Claims 1, 17 and 24 Are Patentable Over the Cited References**

Claims 1-11, 15-20, and 24-35 are rejected under 35 U.S.C. §102 or §103 in view of U.S. Patent No. 6,577,414 to Feldman et al. ("Feldman"), and in further view of various combinations of U.S. Patent No. 6,236,789 to Fitz ("Fitz"), U.S. Patent No. 6,427,042 to

Dyke et al. ("Dyke"), U.S. Patent No. 5,606,555 to Singer ("Singer"), and "Service-Affecting Optoelectronic Failures in FITL Systems: Downtime, Repair Actions, and Maintenance Expenses" by R. Iglesia ("Iglesia"). Specifically, Claims 1-4, 8, 20, 24-27 and 35 stand rejected as anticipated by Feldman, Claims 5-7, 18, 28 and 33 stand rejected as unpatentable over Feldman in view of Fitz and Iglesia, Claims 9-11, 19, 29-32 and 34 stand rejected as unpatentable over Feldman, and Claims 16 and 17 stand rejected as unpatentable over Feldman in view of Dyke, Fitz and Singer. Applicants respectfully submit that the claims, as amended, are patentable over the cited references.

For example, independent Claim 1 is amended to include recitations from dependent Claims 2-6, 9, 10, 15 and 19. Similarly, independent Claim 24 is amended to include recitations from dependent Claims 25-31 and 34. Applicants respectfully submit that the recitations in amended independent Claims 1 and 24 are not obvious in view of any combination of the cited references. For example, Claim 1, as amended, recites, in part:

wherein the optical splitter directly subtends the ONU,  
wherein the optical splitter and the ONU are co-located,  
wherein the ONU is powered by a power source at a location remote  
from the ONU,  
***wherein a composite copper/fiber cable couples an optical line  
terminal (OLT) and the power source to the optical splitter and the ONU,  
respectively,***  
wherein the optical splitter interfaces a first optical fiber to a plurality  
of second optical fibers,  
wherein one of the second optical fibers directly connects the optical  
splitter to the ONU,  
wherein at least one of the second optical fibers directly serves a  
subscriber premises of the plurality of subscriber premises,  
wherein at least one of the second optical fibers serves a second optical  
splitter,  
wherein the optical splitter and the ONU are positioned at a pole,  
wherein at least one of the second optical fibers comprises an aerial  
fiber optic drop extending from the pole to an ONT at a subscriber premises,  
and  
wherein the ONU is coupled to an optical line terminal (OLT) through  
a plurality of optical splitters. (*Emphasis added.*)

Applicants respectfully submit that Feldman, Fitz and Iglesia, alone or in combination, do not disclose or suggest "wherein a composite copper/fiber cable couples an optical line terminal (OLT) and the power source to the optical splitter and the ONU,

respectively," as recited in Claim 1, in combination with other recitations therein.

Additionally, Applicants respectfully submit that Claim 1 is directed to a system that includes a specific combination of recitations that is not disclosed or suggested in the cited references. Accordingly, Applicants respectfully submit that Claims 1 and 24 are patentable and request the allowance thereof for at least these reasons.

Additionally, Claim 17 is amended to be rewritten into independent form and includes recitations from Claims 1-5, 7, and 18. Applicants respectfully submit that the recitations in amended Claim 17 are not obvious in view of any combination of the cited references. For example, Claim 17, as amended, recites, in part:

- wherein the optical splitter directly subtends the ONU,
- wherein the optical splitter and the ONU are co-located,
- wherein the optical splitter and the ONU are positioned at a pedestal or pole,

- wherein the ONU is powered by a power source a location remote from the ONU,

- wherein a composite copper/fiber cable couples a host digital terminal (HDT) and the power source to the optical splitter and the ONU, respectively,***

- wherein the ONU is coupled to an optical line terminal (OLT) through a plurality of optical splitters,

- wherein the OLT is located at one of a central office (CO) or a remote terminal (RT),

- wherein the optical splitter interfaces a first optical fiber to a plurality of second optical fibers,

- wherein one of the second optical fibers directly connects the optical splitter to the ONU,

- wherein at least one of the second optical fibers directly serves a subscriber premises of the plurality of subscriber premises,

- wherein at least one of the second optical fibers comprises an aerial fiber optic drop extending from the pole to an ONT at a subscriber premises,

- wherein the optical splitter and the ONU are positioned at a pole on a first side of a street,

- wherein at least one of the second optical fibers and at least one conductor connected to the ONU serve subscriber premises on the first side of the street,

- wherein an aerial composite cable carries at least one of the second optical fibers and at least one conductor connected to the ONU to a second pole on the first side of the street, and

- wherein the system further comprises:

- a second optical splitter that is positioned at the second pole and that interfaces the at least one of the second optical fibers to aerial fiber***

*optic drops to ONTs located at respective subscriber premises on the first side of the street and a second side of the street; and*

a plurality of aerial conductor drops extending from the second pole to the subscriber premises on the first and second sides of the street. (*Emphasis added.*)

Applicants respectfully submit that Feldman, Fitz, Iglesia and Singer, alone or in combination, do not disclose or suggest "wherein a composite copper/fiber cable couples a host digital terminal (HDT) and the power source to the optical splitter and the ONU, respectively," as recited in Claim 17, in combination with other recitations therein. The Office Action states that:

Feldman et al. teaches in col. 7, lines 1-2 that the OEC is powered by the network. It is understood that it means the power source is at a remote location and power is fed to the OES via a distribution network. To further strengthen the rejection, Examiner cites Fitz for a composite copper/fiber cable for distributing power as illustrated in FIG. 2 of Fitz.

Office Action, page 4. Applicants respectfully submit that the generalized discussion of distributed power that is provided the Office Action does not provide sufficient support for a rejection of the specific recitations of Claim 17.

Additionally, Feldman, Dyke, Fitz and Singer, alone or in combination, do not disclose or suggest "a second optical splitter that is positioned at the second pole and that interfaces the at least one of the second optical fibers to aerial fiber optic drops to ONTs located at respective subscriber premises on the first side of the street and a second side of the street," as recited in Claim 17, in combination with other recitations therein. The Office Action states that:

Dyke et al. teaches in FIG. 1 street distribution comprising poles and drop fibers. Finally, Singer teaches in FIG. 1 tree architecture where a first splitter connects directly to ONU1 and also connects directly to a second splitter where more ONUs are connected. One of ordinary skill in the art would have been motivated to combine the teaching of Fitz, Dyke et al. and Singer with the modified passive optical network of Feldman et al.col.

Office Action, page 5. Applicants respectfully submit that the generalized discussion of a passive optical network architecture that is provided the Office Action does not provide sufficient support for a rejection of the specific recitations of Claim 17. Additionally, Applicants respectfully submit that Claim 17 is directed to a system that includes a specific

combination of recitations that is not disclosed or suggested in the cited references. Accordingly, Applicants respectfully submit that Claim 17 is patentable and request the allowance thereof for at least these reasons.

Regarding claims 1, 17 and 24, Applicants respectfully submit that given the scope of the claim recitations, an obviousness rejection using the number of references that would have to be combined to read on the claims would necessarily be based on hindsight analysis and therefore be improper. Accordingly, Applicants respectfully request the allowance of Claims 1, 17 and 24.

**The Dependent Claims are Patentable**

Applicants submit that dependent Claims 7, 8, 11, 16, 19, 20, 32, 33 and 35 are patentable at least by virtue of the patentability of the respective ones of independent Claims 1, 17 and 24 from which they depend.

In re: Glenn Mahony et al.  
Serial No.: 10/606,677  
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### CONCLUSION

As all of the claims are now in condition for allowance, Applicants respectfully request allowance of the claims and passing of the application to issue in due course. Applicants urge the Examiner to contact Applicants' undersigned representative at (919) 854-1400 to resolve any remaining formal issues.

Respectfully submitted,

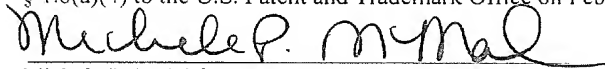


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### CERTIFICATION OF TRANSMISSION

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) to the U.S. Patent and Trademark Office on February 4, 2008.



Michele P. McMahan